

Kentucky Heritage Council Staff Invited to Present at National Historic Covered Bridge Conference

by Diane Comer, Kentucky Heritage Council/State Historic Preservation Office

Kentucky Heritage Council (KHC) Staff Architect Jen Spangler Williamson, AIA, and Restoration Projects Consultant Patrick Kennedy were invited to be featured presenters recently at the Second National Historic Covered Bridge Conference in Dayton, Ohio. The two shared an overview of Kentucky's design-build approach to procuring contracts for restoration of historic covered bridges.

Convening June 5-8, the conference drew covered bridge professionals and enthusiasts devoted to saving, protecting, rehabilitating and celebrating historic covered bridges. Diverse educational sessions focused on a variety of themes, including the rehabilitation process, strategies and guidelines, documentation, analysis, protection, new construction methods and materials, and international covered bridges.

Conference sponsors were the Federal Highway Administration's National Historic Covered Bridge Preservation Program, the National Park Service's Historic American Engineering Record, and the U.S. Department of Agriculture Forest Service's Forest Products Laboratory. It took place 10 years after the First National Covered Bridges Conference in Burlington, Vt.

Titled "Adopting Design-Build Procurement Process for Covered Bridge Restoration Efforts in Kentucky – A Recent History," the presentation by Williamson and Kennedy reviewed how restoration and rehabilitation of historic covered bridges has evolved over the last two decades, beginning in 1993, when the Kentucky Transportation Cabinet first began a comprehensive effort to investigate and assess remaining structures.

From this, 13 historic covered bridges were identified, and the exercise became the basis of a work plan to organize restoration efforts and ensure that the remaining structures would endure as authentic landscape features and attractions for heritage tourism. Federal Transportation Enhancement funds were to be used for these projects, so KYTC and the Heritage Council forged an agreement early on to work cooperatively to ensure that federal Section 106 guidelines were followed with regard to treatment of historic structures.

Kennedy served as KHC's restoration projects manager from 1997 until his retirement in 2012, during which he oversaw preservation efforts throughout the state including historic bridges, and initiated the hands-on preservation skills training programs offered in conjunction with Pine Mountain Settlement School and elsewhere in Kentucky. He is a board member of Preservation Kentucky and former board member of the Preservation Trades Network.

When he first joined the KHC staff, Kennedy said, covered bridge restoration focused more on bridge design rather than restoration of original materials. At first, KYTC inspectors and engineers were concerned with load limits and safety but had no or limited knowledge of covered bridge restoration. Project bidders typically had experience with metal or concrete bridges, but also were not required to have knowledge or prior experience in wooden or timber construction.

After a few initial covered bridge restorations with contracts procured in the traditional design-bid-build method, change orders and budget overruns became problematic, and observers were concerned about the degree of loss to character and historic fabric. A watershed moment came with the 2002 Walcott

Covered Bridge project, in which the 1880s bridge was taken offsite, disassembled and reconstructed with an estimated 70 percent of historic materials replaced. Public and community reaction was negative, as residents challenged whether the bridge being returned was their historic bridge, or a reproduction.

At the First National Covered Bridge conference in 2003, Kennedy and others met many experienced engineers and bridgeworkers, or master craftsmen, and first learned about the design-build approach to restoration, where the bridgeworkers, engineers and construction crews work together from beginning to end. Kennedy described this conference as “eye opening.”

As a result, a shift in methodology occurred in Kentucky with the next project to be undertaken in 2004, restoration of the Goddard Covered Bridge in Fleming County. Prior to work beginning, an independent assessment team of covered bridge preservation professionals with a high degree of expertise was hired to advise the contractor. These included the late Dave Fischetti of North Carolina, a civil engineer with a broad range of experience working on historic bridges and timber structures; Arnold Graton, a historic restoration contractor from New Hampshire specializing in structural timber framing; and Tim Andrews, an experienced timber framer and principal owner of Barns and Bridges of New England.

While the Goddard project still utilized the design-bid-build model of project contract procurement, Fischetti and Graton were employed as consultants to the contractor, and as a result, Goddard bridge was restored onsite with minimal replacement of original materials, load tested to meet safety standards and subsequently reopened to traffic.

The culmination of this evolution came in 2006 with the Johnson Creek Bridge, the first in which consulting parties fully incorporated the design-build approach during the project procurement phase, meaning that contract bids were sought from qualified firms with the expertise to combine the aesthetics of design with the technical needs of construction. The process included public meetings, a request for proposals from companies who would comply with historic standards and meet minimum qualifications for engineers and contractors, and a commitment that the project would be awarded to the firm with the best proposal, not the lowest bid.

As a result, the work was done on site, 70-75 percent of original materials were retained, excellent craftsmanship was employed, and a historic covered bridge was restored to its original, functional design.

According to Kennedy, “Johnson Creek is our finest covered bridge restoration to date. The project came in on budget, the public was pleased, KYTC was pleased, the Heritage Council was pleased, and the design-build approach proved highly successful.”

Today, restoration of the Cabin Creek Covered Bridge in Lewis County is nearing completion, the second to fully utilize the design-build model, and Williamson has stepped in as the Heritage Council’s technical advisor to the project. She is a member of the Association for Preservation Technology (APT), and prior to joining KHC, had 15 years of professional experience as a design architect in commercial practice.

Williamson’s portion of the presentation illustrated new technologies in the Johnson Creek and Cabin Creek bridge restorations, specifically the steel truss shoring employed on site to allow the structures to be stabilized and restored in place.

“This not only improves the retention of character, but it also eases the public’s concern of the restored bridge’s authenticity,” she said.

The Johnson Creek Covered Bridge was one of 10 selected in the U.S. to be highlighted at this year’s covered bridge conference, Kennedy said, noting the 10 were chosen as the best models of how to properly restore a covered bridge and serve as examples for others. The selection was announced publicly at the conference for the first time.

For more information about historic covered bridge restoration, contact Williamson at the Kentucky Heritage Council, 502-564-7005, ext. 135, or jen.williamson@ky.gov.

#

An agency of the Kentucky Tourism, Arts and Heritage Cabinet, the Kentucky Heritage Council/State Historic Preservation Office is responsible for the identification, protection and preservation of archaeological resources and historic buildings, sites and cultural resources throughout the Commonwealth, in partnership with other state and federal agencies, local communities and interested citizens. This mission is integral to making communities more livable and has a far-ranging impact on issues as diverse as economic development, jobs creation, affordable housing, tourism, community revitalization, environmental conservation and quality of life. www.heritage.ky.gov